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10/586,424

07/28/2008

Karl Zappe

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EXAMINER

CHEN, SOPHIA S

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,424	<b>Applicant(s)</b> ZAPPE ET AL.	
	<b>Examiner</b> Sophia S. Chen	<b>Art Unit</b> 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 7/18/06 and 6/1/08.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 16-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-27 and 29-32 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/18/06 and 7/22/09</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings (replacement sheets for Figs. 9 and 10) were received on 7/18/2006. These drawings are approved.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: **60** (page 10, line 18). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **P2** (Figure 1) and **F** (Figure 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version

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of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informality: Page 9, line 5 of the substitute specification, filed 7/18/2006, "region 20" should be "region 30". Appropriate correction is required.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

6. Claim 21 is objected to because of the following informality: line 3, "the carrier" should be "the intermediate image carrier". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 16, 17, 22-25, 27, and 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Terakawa et al. (US Pat. No. 7,150,908 B2)

The patent discloses a continuous intermediate image carrier 1 for an electrophotographic printer or copier wherein an electrical conductivity of the intermediate image carrier 1 in a thickness direction between two opposite measurement points is smaller than between two laterally-offset measurement points on opposite sides of the intermediate image carrier 1 (There are different electric resistance values among layers 3, 5 and 7; therefore, it contains an electrical conductivity in a thickness direction between two opposite points. It is inherently that a small amount of electric conductivity runs on the surface of the intermediate image carrier. Therefore, the resultant electric conductivity is in the laterally-offset direction. Inherently the resultant electric conductivity (two laterally-offset measurement points) is larger than the electricity conductivity in the thickness direction.); a toner image made up of electrically-charged toner particles and present on an image carrier 19 can be transferred onto the intermediate image carrier 1 in a first transfer printing region (with roller 21, Figure 3), and the transferred toner image can be transferred from the intermediate image carrier 1 onto a final image carrier 27; the laterally-offset measurement points being arranged offset in at least one of an outside major surface 9 direction or transverse to the outside major surface 9 (inherently, see Figure 2); the conductivity between the measurement points transverse to the outside major surface

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direction is smaller than a transverse resistance between measurement points in the outside major surface direction (inherently due to higher electrical resistance of layer 7; column 7, lines 8-12); the intermediate image carrier 1 being a transfer belt or a transfer drum (column 6, lines 35-38); the image carrier 19 being a photoconductor (column 7, line 20); a specific electrical resistance of the intermediate image carrier 1 in a thickness direction having a value in a range from  $1\text{E}+10\ \Omega\text{cm}$  to  $1\text{E}+12\ \Omega\text{cm}$  (column 6, line 53 to column 7, line 12); and an electrical resistance of the intermediate image carrier 1 between the two laterally-offset measurement points on opposite sides of the intermediate image carrier 1 having a value in a range between  $1\text{E}+7\ \Omega\text{cm}$  and  $1\text{E}+11\ \Omega\text{cm}$  (inherently; column 6, line 53 to column 7, line 12).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 18-21 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terakawa et al.

The patent, as discussed above, differs from the instant claimed invention in not disclosing the electrical conductivity of the intermediate image carrier between the laterally-offset measurement points being at least so great that an ignition voltage of a gas discharge is prevented between the intermediate image carrier and an image carrier from which a toner image is transferred to the intermediate image carrier; the electrical conductivity of the intermediate image carrier between the laterally-offset measurement points being at least so low that a sufficiently large electrical field can be generated for transfer of a toner image from the intermediate image carrier onto a final image carrier as well as from an image carrier onto the intermediate image carrier; the electrical conductivity of the intermediate image carrier between the two substantially opposite measurement points being at least so low that partial discharges on a surface of the intermediate image carrier are prevented; the electrical conductivity of the intermediate image carrier transverse to an outside major surface in a direction of a plane of the intermediate image carrier being at least so low that a sufficiently large electrical field for transfer of a toner image can be generated at a transfer printing point for transfer of the toner image; and the electrical conductivity of the intermediate image carrier on a surface thereof being at least so great that an electrical flashover is prevented between the intermediate image carrier and a further image carrier.

Although Terakawa et al. does not disclose the above features, these features are the typical requirement for transferring the toner image without damaging the intermediate image carrier. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to consider and apply these feature for the intermediate image carrier of Terakawa et al.

12. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terakawa et al. in view of Enomoto et al. (US Pat. Pub. No. US 2003/0007810 A1)

Terakawa et al., as discussed above, differs from the instant claimed invention in not disclosing a plurality of toner images can be transferred from the image carrier onto the intermediate image carrier in a first operating mode, the toner images being substantially printed atop one another on the intermediate image carrier, and the toner images printed atop one another can be mutually transferred onto the final image carrier in a second operating mode.

Enomoto et al. discloses a color image forming apparatus comprising an image carrier 1; an intermediate image carrier 6; and a plurality of toner images can be transferred from the image carrier 1 onto the intermediate image carrier 6 in a first operating mode (at N1 position; Figure 1), the toner images being substantially printed atop one another on the intermediate image carrier 6, and the toner images printed atop one another can be mutually transferred onto the final image carrier P in a second operating mode (at N2 position; Figure 1).



It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the plurality of toner image images as taught by Enomoto et al. to Terakawa et al. to be able to form color images.

***Allowable Subject Matter***

13. Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Other Prior Art***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Natori et al. (US Pat. No. 7,142,800 B2) discloses a continuous intermediate image carrier for an electrophotographic printer or copier wherein an electrical conductivity of the intermediate image carrier in a thickness direction between two opposite measurement points is smaller than between two laterally-offset measurement points on opposite sides of the intermediate image carrier.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (571) 272-2133. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sophia S. Chen/  
Primary Examiner, Art Unit 2852

Ssc  
March 4, 2010